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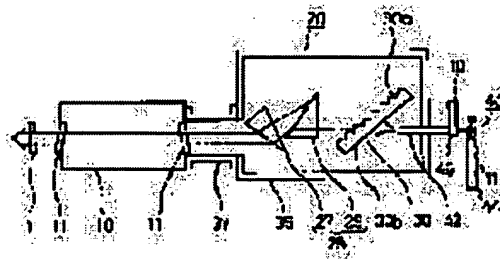
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(54) NARROW-BAND OSCILLATION EXCIMER LASER EQUIPMENT AND ITS PURGING METHOD

(57)Abstract:

PURPOSE: To eliminate the fluctuation of oscillation wavelength of output laser light due to the change of refractive index of gas on the grating surface, and restrain heat generation of optical elements, by arranging an introducing port of clean gas for purging on the rear side of the grating, and preventing the clean gas from flowing on the trench surface of the grating.

CONSTITUTION: The title equipment is constituted of a front mirror 1, a laser chamber 10 for oscillating laser, and a narrow bandwidth equipment for narrowing the laser bandwidth, which equipment is constituted of a prism beam expander 25, a grating 30, a cabinet 35 and a clean gas equipment 40 which blows out clean gas from a clean gas introducing port 42 via a flowmeter 46 from a clean gas cylinder 44. The clean gas introducing port 42 is arranged on the rear side 30b of the grating 30. The gas flow is



not generated on the trench surface 30a of the grating 30, so that the fluctuations of the

center wavelength of output light and a beam profile do not occur. The inside of a narrow bandwidth box 35 and the inside of a pipe 37 are filled with the clean gas.

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